

Remarks

Claims 1-13 are under consideration. Claim 13 has been cancelled and claims 1, 2 and 10 have been amended. Claim 14 was previously canceled. Reconsideration is requested.

Claims 1-13 are rejected under 35 U.S.C. 103(a) over Cooley et al. This rejection is traversed. Claim 13 has been canceled, and the rejection thereof is rendered moot. It is respectfully submitted that applicant's invention as now set forth in the remaining claims 1-12 is patentable over Cooley et al. and that the rejection under 35 U.S.C. 103(a) should be reconsidered and withdrawn.

Applicant's invention as set forth in independent claim 1 is directed to an attachment device for a cutting tool that minimizes shear load applied to threaded fasteners that mount cutting elements to the tool. Minimization of shear forces to the threaded fasteners is achieved by applicant's claimed arm, in cooperation with other claimed features (such as engagement surfaces on the tool and the cutting elements that resist side loads applied to the cutting elements). One example of applicant's claimed arm is shown in applicant's FIGS. 2 and 3 as a welded combination of arm 21 and mounting box 12. The walls internal to the mounting box that define through holes 20 for threaded fasteners 19 are dimensioned, as claimed, to provide a clearance between the walls and the threaded fasteners, that minimizes shear load applied by the arm to the threaded fasteners. This clearance goes beyond a clearance ordinarily required merely for passage of the bolts through the arm. It will be appreciated that the side loads applied to the cutting elements (and potentially to the threaded fasteners) is generated by the cutting force through contact between the cutting elements and the ground. It has been found that, if bolt-passing clearance alone were provided, the enormous torsional cutting load applied to the cutting elements would result in binding of the threaded fasteners, preventing removal of the cutting elements necessary to replenish those consumable components of the cutting operation. The tool is normally designed to optimize the cutting force that can be generated by the tool, while minimizing the weight and cost of the tool. Only applicant's claimed invention provides such improvement.

Applicant's claimed features are neither shown or suggested by Cooley et al. Cooley et al. does not show cutting elements and is not concerned with a cutting operation or other operation that generates great side loads to a bolt-mounted component as in applicant's claimed invention. Rather, Cooley et al. is concerned with gauge elements, or wear plates, attached to the side of a drill bit to steady the drill bit and not bear the cutting load of the drill bit.

In light of the above amendment and remarks, the rejection of claim 1 under 35 U.S.C. 103(a) is believed to have been fully overcome. Claims 2-12, which depend from claim 1 and incorporate the limitations thereof, are believed to be allowable for the reasons set forth above with respect to claim 1, and for their own characterizations, as well.

As a result, the claims now pending in this application are believed to be allowable, and an early allowance is respectfully requested.

Respectfully submitted,

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By  _____

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